GENERAL SPECIFICATIONS

THIS WORK SHALL CONSIST OF FURNISHING ALL MATERIALS FOR, AND CONSTRUCTING MASONRY SOUND BARRIERS IN ACCORDANCE WITH PLAN DETAILS, THE APPLICABLE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, THE APPLICABLE REQUIREMENTS OF THE ACI, BIA, AND NCMA, AND THE FOLLOWING:

1. ALL CONCRETE SHALL BE CLASS "A" IN CONFORMANCE WITH SECTION 6.01 OF THE D.O.T. STANDARD SPECIFICATIONS. SEE DETAIL FOR PRECAST SPECIFICATION.
2. ALL GROUT SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR GROUTED REINFORCED AND NON-REINFORCED MASONRY IN ACCORDANCE WITH ASTM C476, AND ACI 531.1-76 (REV. 1983), UNLESS OTHERWISE NOTED.
3. MASONRY MORTAR SHALL BE TYPE "S" CONFORMING TO ASTM C270. MORTAR SHALL ALSO CONTAIN AN INTEGRAL WATERPROOFING ADMIXTURE.
4. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615M GRADE M420.
5. JOINT REINFORCEMENT SHALL BE FABRICATED FROM STEEL WIRE CONFORMING TO ASTM A82 AND SHALL BE 5 mm x 5 mm TRUSS TYPE (EXTRA HEAVY) HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 CLASS B-2. STRAP TIES SHALL BE 5 mm x 30 mm x 300 mm LONG GALVANIZED STEEL CONFORMING TO ASTM A123 AND GROUTED SOLIDLY 400 mm O.C. VERTICALLY.
6. ALL BOLTS, ANCHORS, AND TIES SHALL BE GALVANIZED CONFORMING TO ASTM A153 CLASS B-2 AND SHALL BE SOLIDLY EMBEDDED IN MORTAR OR GROUT. DOWELS OR TIES IN CONNECTION WITH MASONRY COPINGS SHALL BE STAINLESS STEEL CONFORMING TO AISI 300 SERIES AND ASTM 167.
7. CONCRETE MASONRY UNITS SHALL CONFORM TO THE LATEST REQUIREMENTS OF ASTM C90, ASTM C145, ASTM C129, AND ASTM C331 FOR LIGHTWEIGHT AGGREGATES AND ASTM C744 FOR PRE-FACED UNITS. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ALL PROFILE AND CUSTOM MASONRY UNITS. INTEGRAL WATERPROOFING ADMIXTURE IS RECOMMENDED FOR ALL EXPOSED EXTERIOR UNITS. ALL MASONRY UNITS SHALL BE LAID IN RUNNING BOND WITH FULL HEAD AND BED JOINTS WITH A MAXIMUM THICKNESS OF 10 mm. STACK BOND INDICATED FOR PIER CONSTRUCTION-RUNNING BOND AT DESIGNERS OPTION WHERE APPLICABLE.
8. ACOUSTICAL - SOUND ABSORBING MASONRY UNITS. IF REQUIRED, SHALL CONFORM TO THE APPLICABLE REQUIREMENTS FOR STANDARD CONCRETE MASONRY UNITS AS STATED ABOVE MANUFACTURERS RECOMMENDATIONS, AND THE FOLLOWING:
   - SOUNDBLOX BY THE PROUDFOOT COMPANY INC.
   - ASTRA-GLAZE BY NABCO GLAZED PRODUCTS
   - ACOUSTA-WALL BY NABCO GLAZED PRODUCTS
   - CHECK LOCAL BLOCK SUPPLIERS FOR OTHERS
9. CLAY MASONRY (BRICK) SHALL CONFORM TO ASTM SPECIFICATIONS C216, C62, AND C126 FOR SOLID (75%) BUILDING BRICK. FACING BRICK AND CERAMIC GLAZED UNITS MADE FROM CLAY AND/OR SHALE. BRICK SHALL BE GRADE SW FOR EXTERIOR USE - TYPE FBS.

SOUND REFLECTIVE BARRIERS

DESIGN SUGGESTIONS

WALL TYPE 1 - 200 mm SINGLE WYTHE CONSTRUCTION

1A	STANDARD -	200x200x400	LIGHT	WEIGHT	UNITS
1B	STANDARD -	200x200x400 (200x200)	SCORED	BLOCK	
1C	STANDARD -	200x200x600	LIGHT	WEIGHT	UNITS
1D	STANDARD -	200x200x600 (200x200)	SCORED	BLOCK	
1E	STANDARD -	200x200x400	SPLIT	RIBBED	BLOCK
1F	STANDARD -	200x200x400	FLUTED	UNITS	
1G	STANDARD -	200x200x400	PROFILE	BLOCK	
1H	STANDARD -	200x200x400	SPLIT FACE UNITS		
1I	STANDARD -	200x200x400	GROUND FACE BLOCK		
1J	MODULAR -	200 mm UNIT THRU - WALL BRICK			

** DESIGN OPTIONS:
1) COLOR, TEXTURE, AND FINISH
2) COMBINATIONS OF ANY SUGGESTED
3) CONSULT YOUR LOCAL SUPPLIERS FOR OTHER PRODUCTS AVAILABLE

WALL TYPE 2 - 200 mm COMPOSITE WALL ASSEMBLIES

2A ANY COMBINATION OF BLOCK UNITS LISTED ABOVE USING 2 - 100 mm (92 mm) WYTHES

(1E) STANDARD 100x200x600 AND 100x200x400 SPLIT RIB
(IE) DOUBLE FACE WALL - 2 WYTHESSPLIT FACE
(IE) STRUCTURAL GLAZED TILE OR BLOCK WALLS

2B ANY BLOCK UNIT LISTED ABOVE (100 mm) IN COMBINATION WITH BRICK

STANDARD BRICK, JUMBO, ECONOMY, UTILITY, ROMAN, 200x200, ETC.

2C ANY COMBINATION OF BLOCK UNITS AND STONE
ANGEL STONE, LIMESTONE, ARCHITECTURAL PRECAST, MARBLE, GRANITE, ETC.

2D COMPOSITE WALL OPTIONS

BRICK, STONE, ETC. 2 - 100 mm WYTHES

* OPTIONAL FINISHES

STUCCO, PLASTER, EXTERIOR SYNTHETIC FINISH

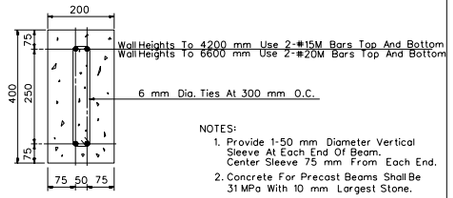
PIER AND CAISSON SCHEDULE

MAX. WALL HEIGHT (mm)	2400	3000	3600	4200	4800	5400	6000	6600
BLOCK PIER SIZE	300x400	400x400	300x600	400x600	400x600	600x600	600x600	600x600
BLOCK PIER REINFORCEMENT	4-**15M	4-**15M	4-**15M	4-**20M	4-**20M	8-**15M	8-**20M	8-**20M
VENEER PIER SIZE	300x400	400x400	300x600	300x600	400x600	600x600	600x600	600x600
VENEER PIER REINFORCEMENT	4-**15M	4-**20M	4-**15M	4-**20M	6-**20M	6-**20M	6-**25M	6-**25M
CAISSON DIAMETER	600	600	750	750	750	750	750	750
CAISSON EMBEDMENT ①	1800	2100	2250	2400	2700	2700	3000	3150
CAISSON EMBEDMENT ②	2400	2700	3000	3000	3300	3300	3600	3900
CAISSON EMBEDMENT ③	2400	2700	3000	3000	3300	3300	3600	3900

① FLAT SURFACE WITH THE WATER TABLE LOWER THAN 3 m.
② FLAT SURFACE WITH THE WATER TABLE AT THE SURFACE
③ A SIDE SLOPE OF 1:2 WITH A LOW WATER TABLE

NOTES:

A) Vertical Pier Reinforcement To Extend Into Concrete Caissons A Minimum Of 36 Bar Diameters.
B) Ties For All Piers To Be 6 mm Diameter At 200 mm O.C. Vertically.
C) Provide Horizontal Bond Beams With 2-#15M Bars (Continuous) At Top Of Wall.
D) All Rebars Are Metric Designations.



NOTES:
1. Provide 1-50 mm Diameter Vertical Sleeve At Each End Of Beam. Center Sleeve 75 mm From Each End.
2. Concrete For Precast Beams Shall Be 31 MPa With 10 mm Largest Stone.

TYPICAL PRECAST BEAM CROSS-SECTION

GENERAL SPECIFICATIONS

10. CONTROL JOINTS SHALL BE 10 mm CLOSED CELL NEOPRENE AND LOCATED AT PIERS WITH A MAXIMUM OF 7800 mm O.C. WIRE REINFORCING OR STRAP TIES SHALL BE CONTINUOUS THRU CONTROL JOINTS. EXPANSION JOINTS SHALL BE 10 mm CLOSED CELL NEOPRENE AND LOCATED EVERY THIRD CONTROL JOINT. DO NOT CONTINUE WIRE REINFORCING THRU EXPANSION JOINTS. ANCHOR MASONRY WITH A PIN AND SLEEVE CONNECTION AT EXPANSION JOINTS. CLOSED CELL NEOPRENE SHALL CONFORM TO ASTM C509 AND ASTM D1056.
11. STONE FILL SHALL MEET GRADATION REQUIREMENTS OF ARTICLE M.01.01 OF THE D.O.T. STANDARD SPECIFICATIONS. GRADATION MAY MEET ANY TABLE SIZE FROM 10 mm TO 50 mm PLACED TO A MINIMUM DEPTH OF 50 mm ABOVE THE BOTTOM OF THE HIGHEST WALL WITH A TOTAL DEPTH NO LESS THAN 100 mm.
12. EXECUTION - FOLLOW APPLICABLE CODES FOR THE PROPER INSTALLATION OF ALL MASONRY UNITS INCLUDING SAMPLES. TESTS AND QUALITY ASSURANCE.
13. OTHER MASONRY MATERIALS
    SPECIFICATIONS FOR OTHER MASONRY MATERIALS SHALL CONFORM TO GENERAL REQUIREMENTS AS LISTED ABOVE AND RECOMMENDATIONS FROM APPLICABLE MANUFACTURERS AND ASSOCIATIONS REQUIREMENTS FOR THE FOLLOWING:
    1. STRUCTURAL GLAZE TILE AND GLAZED BLOCK
    2. GLASS BLOCK
    3. LIMESTONE
    4. GRANITE
    5. MARBLE
    6. SLATE
    7. FIELD STONE
    8. PRE-CAST ORNAMENTAL STONE
    9. CERAMIC - TILE
    10. TERRAZZO
    11. EXTERIOR SYNTHETIC FINISHES
    12. PLASTER
    13. TERRA-COTTA
    14. SURFACE BONDED MASONRY
    15. PAINTS, SEALANTS, AND DECORATIVE FINISHES
14. DESIGN DATA

WIND LOAD PRESSURE	1.34 kPa (137 km/h)
LATERAL SOIL BEARING	62.8 kPa/m DEPTH
SOIL UNIT MASS	1920 kg/m^3 (GRANULAR SOIL)
ANGLE OF INTERNAL FRICTION	30°
WIRE REINFORCEMENT	Fs = 207 MPa
REBAR REINFORCEMENT	Fs = 165 MPa
CONCRETE COMPRESSIVE STRENGTH	Fc' = 21 MPa (CAISSONS)
CONCRETE OR GROUT COMPRESSIVE STRENGTH	Fc' = 28 MPa (PIERS)
PRECAST CONCRETE BEAM	Fc' = 31 MPa
MASONRY WITH INSPECTION	F'm = 9.65 MPa F'm = 11.72 MPa FOR PIER MASONRY OVER 6000 mm IN HEIGHT
MASONRY WITHOUT INSPECTION	F'm = 13.10 MPa F'm = 17.24 MPa FOR PIER MASONRY OVER 6000 mm IN HEIGHT

SOUND ABSORPTIVE BARRIERS

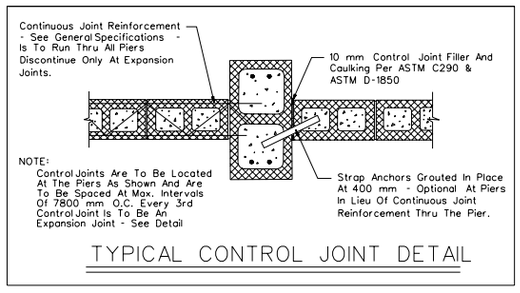
DESIGN SUGGESTIONS

WALL TYPE 3 - 200 mm SINGLE WYTHE CONSTRUCTION

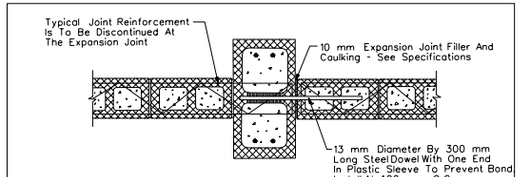
- 200x200x400 SOUND ABSORBING MASONRY UNITS ARE AVAILABLE IN A VARIETY OF FINISHES IN BOTH LOAD BEARING AND NON-LOAD BEARING UNITS.
- EXAMPLES OF SOUND ABSORBING MASONRY UNITS:
  - STANDARD LIGHTWEIGHT UNITS
  - GLAZED UNITS
  - GROUND FACE UNITS
  - SPLIT RIB UNITS
  - PROFILE UNITS
- THESE UNITS ARE AVAILABLE IN A VARIETY OF TYPES DEPENDING ON THE SOUND ABSORBING REQUIREMENTS. REFERENCE STANDARDS ARE:
  - SOUNDBLOX BY THE PROUDFOOT COMPANY INC.
  - ASTRA-GLAZE BY NABCO GLAZED PRODUCTS
  - ACOUSTA-WALL BY NABCO GLAZED PRODUCTS
  - CHECK LOCAL BLOCK SUPPLIERS FOR OTHERS

WALL TYPE 4 - 200 mm COMPOSITE WALL ASSEMBLIES

- SOUND ABSORBING MASONRY UNITS ARE AVAILABLE IN 100 mm, 150 mm, 200 mm AND 300 mm WIDTHS AND MAY BE USED IN COMBINATION WITH EACH OTHER OR ANY OTHER MASONRY MATERIALS. REFER TO THE STANDARDS LISTED ABOVE.



TYPICAL CONTROL JOINT DETAIL



TYPICAL EXPANSION JOINT DETAIL

AT EVERY 3RD CONTROL JOINT (MAXIMUM SPACING - 24 m)

ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT AS NOTED.

MASONRY NOISE BARRIER WALL

CONN. DEPT. OF TRANSPORTATION	8/95
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916-F2